

Work Order ID 144359

April 13, 2016 1:41:58 PM

144359

Page 1

Item ID: D350-636-011

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 5/6/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/20/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: SEA Date: **20160413**

Tooling:

Date:

Run Start ***NR1***

QC: Date: SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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D2750-041	G
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100

Document Control

0.00

DAS

6

9-89

MAY 31 2016

100

DOCUMENT CONTROL

0.00

DC

Memo

record fwd angle:

89.7°

Doc.Control -USB or Paperwork

Photocopy blue file and type labels per PPP D350-636-011/CHG 007

DAS

27

9-89

MAY 31 2016

B144359 LH

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Page 2

Item ID: D350-636-011 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.
Start Date: 5/6/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 5/20/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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110

0.00

110

Skidtubes

Skidtubes

Skidtubes

Memo

0.98

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D2750

3- Drill pilot holes for blade fitting bolt holes using DT8983. Start with 3/16" then open to 0.500" using center drill then ream holes using 0.500" reamer. PIN first side. Repeat process on second side.

*****ENSURE PROPER POSITIONING FWD BEND MUST BE FACING UP WHEN DRILLING FIRST SIDE*****

Drill pilot holes as per Dwg D2750 sheet 4 (D2750-1 details). Drill using drill Jig DT8150 & DT8863A for 2nd side only DT8863B for first side (detail B)

4- Locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting. Open to 0.500" using hole saw. VERIFY AND RECORD FWD BEND ANGLE.

6-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".

7-Open up holes of Detail A to 0.297" (total of 2 holes per side)

8-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left from bending as per QSI 004

16-5-984

06 16-05-10

DQA: _____ Date: _____



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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Page 3

Item ID: D350-636-011

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

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Start Date: 5/6/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 5/20/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
	A/R Aluminum Rod batch: <u>ML34442</u>								
	9-Grind welds flush as per Dwg D2750								
120	QC10- Inspect visual per QSI004- ground welds	0.00							
120									
QC	Memo	0.00							
Quality Control									
130	QC5- Inspect part completeness to step on W/O	0.00							
130									
QC	Memo	0.02							
Quality Control									

DAS
38
9-89
MAY 10 2016DAS
38
9-89
MAY 10 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

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Start Date: 5/6/2016 Start Qty: 1.00 ***1*** Cust Item ID:
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Chemical Conversion Coat per QSI005 4.1	0.00							
140									
HandFinish	Memo	0.36							
Hand Finishing									
150	QC7-Inspect Chemical Conversion Coat	0.00							
150									
QC	Memo	0.01							
Quality Control									

DAS
03
9-89

16-5-10

DQA: _____ Date: _____



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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Skidtubes	0.00							
160									
Skidtubes									
Skidtubes									
	Memo	1.09							
	1-Open up holes using hole saw of Detail C and ground handling to 0.625" (total of 8 holes per side) as per dwg D2750.								
	2-Open up holes using hole saw of Detail B to 0.750" (total of 4 holes per side) as per dwg D2750.								
	3- Open float hole using un-bit to 0.500" (4 per side)								
	4-Chamfer holes of Detail B, C, ground handling and float holes per dwg D2750 (welding instructions on sheet 8)								
	5-Deburr and blow out all chips from inside of tube								
	6- Prepare tube for welding, remove alodine as required.								
	7-Bond web D2739 in place as per OSI 015, let cure for 12hrs. A/R Sikaflex-291 batch: <u>134487</u> exp. date: <u>16-12-8</u>								
	ATTN: USE I-BEAM LOCATION AID (BLADE FITTING)								
	8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 & OSI004 (welding instructions on sheet 8) A/R Aluminum Rod batch: <u>m134442</u>								
	9- At section AJ-AJ drill out x-bolt spacer to 0.404"								

16-5-11 *[Signature]*

7 8E16-05-12

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Work Order ID 144359

April 13, 2016 1:41:58 PM

144359

Page 6

Item ID: D350-636-011 Accept *N900040100* Setup Start *NS1*

Revision ID: Stop *NS2*

Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 5/6/2016 Start Qty: 1.00 *1* Cust Item ID:

Required Date: 5/20/2016 Req'd Qty: 1.00 *1* Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

10-Grind welds flush as per Dwg D2750

11-Spot face ground handling holes section (total of 4 places per side) as per dwg D2750

12-Deburr holes, ensure tube is free of all scratches before sending to paint.

170 QC10- Inspect visual per QSI004- ground welds 0.00

170

QC

Quality Control

Memo 0.00

180 QC5- Inspect part completeness to step on W/O 0.00

180

QC

Quality Control

Memo 0.02

VERIFY C'BOARD IS GOOD

16-5-16 JH

DAS
9
9-89

DAS
38
9-89

MAY 17 2016

DAS
38
9-89

MAY 17 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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OTHER : ☐																									

Work Order ID 144359

April 13, 2016 1:41:58 PM

144359

Page 7

Item ID: D350-636-011 Accept
 Revision ID:
 Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.
 Start Date: 5/6/2016 Start Qty: 1.00 *1*
 Required Date: 5/20/2016 Req'd Qty: 1.00 *1*
 Reference:

N900040100

Setup Start ***NS1***

Stop ***NS2***

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	Pressure Wash per QSI005 4.3	0.00							
190	HandFinish	0.44				(1)			DL16/05/25
Hand Finishing	Memo Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.								
200		0.00							
200	SprayPaint	0.34				1			DAS 41 9.89
Spray Painting	Memo 1- PRIME AS PER DWG AND QSI 005 4.2 PRIMER PRC DESOTO 515X349 BATCH: <u>132919</u> 2- PAINT WHITE AS PER DWG AND QSI 005 4.2 PAINT BATCH: <u>134585</u>								16-5-25
210	QC14- Inspect Spray Paint	0.00							
210	QC	0.00							
Quality Control	Memo Inspect for foreign object per QSI 024								x16H d 16/05/25 DAS 15 9.89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Work Order ID 144359

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144359

Page 8

Item ID: D350-636-011

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 5/6/2016 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 5/20/2016 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230	HandFinishing	0.00							
230									
HandFinish	Memo	1.32							
Hand Finishing	1- Install inserts as per Dwg D2750								
	2-Inspect for Foreign Objects								
	3- Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D2750 SIKA FLEX 241 BATCH: <u>M1134487</u> EXP DATE: <u>16112</u>								
	4- Assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch: <u>M133145</u> 548 RTU M134524 1662								
	5- Coat all exposed fasteners with "LPS Procyon" batch: <u>M1133690</u>								
240	QC5- Inspect part completeness to step on W/O	0.00							
240									
QC	Memo	0.02							
Quality Control									

DAB
38
9-89

MAY 31 2016

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
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LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
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Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				

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Page 9

Reference:

Approvals:	Process Plan: _____	Date: _____	Tooling: _____	Date: _____	Run	Start	*NR1*
	QC: _____	Date: _____	SPC (Y/N): _____	Date: _____			

250

Pick Kit

0.00

250

Packaging

Packaging

Memo

0.01

260

QC4- 100% Inspect kits for completeness

0.00

260

OC

Quality Control

Memo

0.03

*****ensure antiseize is on AN8C21A bolts*****

270

0.00

270

Packaging

Packaging

Packaging

Memo.

0.00

Package as per PPP D350-636-011
Location : FG072

DAS
 28
 9-80

MAY 31 2016

BAS
 27
 9-69
 MAY 31 2016

AS
27
9-89

MAY 31 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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OTHER : ☐																					

Work Order ID 144359

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Page 10

Item ID: D350-636-011 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.
Start Date: 5/6/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 5/20/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
280	QC21- Final Inspection - Work Order Release	0.00							
280 QC	Memo	0.10							
Quality Control									

16/06/07 [Signature] / [Signature]

MCS JUN 06 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
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OTHER : ☐					

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144359

D350-636-011

Required Date: 5/20/2016

Required Qty: 1.00

Comments:	IPP Rev:I	02.09.25	Rearranged procedure steps		KJ
	IPP Rev:J	06-03-23	As per Rev D		JLM
	IPP Rev:K	06-07.13	As per dsi9343		EC
	IPP Rev:L	07-07-28	Added SS Wearplates(Rev E)		JLM Verf:EC
	IPP Rev:M	08-04-22	update steps 4, 13		DD verified by:EC
	IPP Rev:N	08-09-23	revF as per dwg		DD verified by:ec
	IPP Rev:O	09-02-06	apply antiseize on AN8C21A bolts as per PAR09-010		
	DD verf:EC			IPP Rev:P	10.06.22 revise
	seq110 DD verf:EC			IPP Rev:Q	10.10.01 as per IIN revH
	DD verf:EC			IPP REV:R	13.08.27 PER ECN13-594 DD
	VERF:JLM				

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3492-1		Manufactured	No			230	Each	22.0000	8	8			
D3492-1									**			16/05/27	
Plug													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				FP001				22					
				141659				22		B 142908	x8		
D3492-3		Manufactured	No			230	Each	43.0000	8	8			
D3492-3									**			16/05/27	
Plug													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				FP001				43					
				133470				3					
				141585				40			x8		

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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OTHER : ☐																					

Picklist Print

April 13, 2016 1:41:57 PM

Page 2

Work Order ID: 144359

144359

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 5/6/2016

Required Date: 5/20/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0863J

Purchased

No

250

Each

520.0000

2

2

NAS1149D0863J

Washer

**

DAS
6
9-89

DAS
28
9-89

BAS
27
9-89

Location

Loc Qty

Loc Code

FP001

47

125484

47

ST260a

100

125635

100

ST263

373

125268

373

NAS1611-010

Purchased

No

230

Each

99.0000

8

8

NAS1611-010

O-RING

**

MAY 31 2016

all 16/05/27

Location

Loc Qty

Loc Code

FP001

99

m130770

87

m131618

12

11134593

X8

D2744

Manufactured

No

110

Each

26.0000

1

1

D2744

Cap

**

BE16-05-10

Location

Loc Qty

Loc Code

LG001

26

137684

26

D2600-3-BENT-LH

Manufactured

No

110

Each

3.0000

1

1

D2600-3-BENT-LH

Extrusion Bent LH

**

16-5-9

Location

Loc Qty

Loc Code

LG002

3

139474

3

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Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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OTHER : ☐																																																																				

Picklist Print

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Page 3

Work Order ID: 144359

144359

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 5/6/2016

Required Date: 5/20/2016

Start Qty: 1.00

Required Qty: 1.00

D2743 Manufactured No 160 Each 131.0000 8 8

D2743

Crossbolt Spacer

**

BE/6-05-12

Location

Loc Qty

Loc Code

LG001

131

141078

131

D2739 Manufactured No 160 Each 1.0000 1 1

D2739

350 I Beam

**

15-5-11 JH

Location

Loc Qty

Loc Code

LG002

1

142914

1

D3490-3 Manufactured No 160 Each 96.0000 4 4

D3490-3

Cross Bolt Spacer

**

BE/6-06-12

Location

Loc Qty

Loc Code

LG001

96

137807

2

140801

94

D3490-1 Manufactured No 160 Each 12.0000 4 4

D3490-1

Cross Bolt Spacer

**

BE/6-05-12

Location

Loc Qty

Loc Code

LG001

12

134019

4

140802

8

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____		MRB (QSI042) Approval 	
Description Work Order Deviation				Disposition			
						Completed By 	
						Lead hand / Supervisor Approval Verification 	
						QC / QA Coordinator Approval 	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
		OTHER : ☐ _____					

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Page 4

Work Order ID: 144359

144359

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 5/6/2016

Required Date: 5/20/2016

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-225

AELS8-1032-225

Purchased

No

Each

404.0000

38

ALS4-1032-225

*ALG-1032-225 / 21133799

**

(138)

16/05/27

Rivnut

Location

Loc Qty

Loc Code

FG

120

M127028

120

FP001

15

M133772

15

ST

30

M133799

30

ST280

239

M128454

239

D3793-3

Manufactured

No

230

Each

5.0000

1

1

D3793-3

**

16/05/27

Wearplate Aft

Location

Loc Qty

Loc Code

FP002

5

139733

5

x1

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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OTHER : ☐																					

Picklist Print

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Page 5

Work Order ID: 144359

144359

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 5/6/2016

Required Date: 5/20/2016

Start Qty: 1.00

Required Qty: 1.00

AN8C35A

Purchased

No

230

Each

97.0000

1

1

AN8C35A

Bolt

**

16/05/27

Location

Loc Qty

Loc Code

FG

5

121275

5

FP001

17

m132381

2

m132522

15

over005

75

m133332

15

m133336

15

m134130

15

m134131

15

m134133

15

D3793-1

Manufactured

No

230

Each

6.0000

1

1

D3793-1

Wearplate Fwd

**

16/05/27

Location

Loc Qty

Loc Code

FP002

6

139734

6

D3488-041

Manufactured

No

230

Each

6.0000

1

1

D3488-041

Blade Fitting LH

**

16/05/27

Location

Loc Qty

Loc Code

FP001

6

141109

6

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Page 5

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Picklist Print

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Work Order ID: 144359

144359

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 5/6/2016

Required Date: 5/20/2016

Start Qty: 1.00

Required Qty: 1.00

D3794-3

Manufactured No

230

Each

16.0000

1

1

D3794-3

Gasket Aft

**

lll 16/05/27

Location

Loc Qty

Loc Code

FP001

16

141134

16

x1

AN6C44A

Purchased

No

230

Each

429.0000

4

4

AN6C44A

Bolt

**

lll 16/05/27

Location

Loc Qty

Loc Code

FP001

81

131649

50

m130863

9

m131151

22

over009

298

x4

m132522

52

m132556

246

ST333

50

m130863

4

m131946

46

MS21083C8

Purchased

No

230

Each

47.0000

1

1

MS21083C8

Nut

**

lll 16/05/27

Location

Loc Qty

Loc Code

FP001

9

m133990

9

x1

ST297

38

m134055

18

m134509

20

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Shop Packet Print

Page 6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

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OTHER : ☐																									

Picklist Print

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Work Order ID: 144359

144359

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 5/6/2016

Required Date: 5/20/2016

Start Qty: 1.00

Required Qty: 1.00

D3536-25

Manufactured No

230

Each

17.0000

1

1

D3536-25

Gasket Center

**

lll 16/05/27

Location

Loc Qty

Loc Code

FG

6

87053

2

95328

4

FP001

11

141388

11

X1

D3631-1

Manufactured No

230

Each

147.0000

8

8

D3631-1

Washer

**

lll 16/05/27

Location

Loc Qty

Loc Code

FP001

147

140533

47

142562

100

X2

D3791-1

Manufactured No

230

Each

7.0000

1

1

D3791-1

Wearpad

**

lll 16/05/27

Location

Loc Qty

Loc Code

FP002

7

139736

7

X1

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Picklist Print

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Page 8

Work Order ID: 144359

144359

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 5/6/2016

Required Date: 5/20/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0332R

Purchased

No

230

Each

3,919.000

38

38

NAS1149C0332R

WASHER

**

lll 16/05/27

Location

Loc Qty

Loc Code

FP001

2122

m132262

4

m132930

1004

m134063

986

m134073

128

GA

297

m133284

297

ST266

1500

m134474

500

m134574

1000

X38

D2745

Manufactured

No

230

Each

57.0000

8

8

D2745

Bushing

**

lll 16/05/27

Location

Loc Qty

Loc Code

FP001

57

129584

7

136214

2

141061

48

X9

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Shop Packet Print

Page 8

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																																																																	
		OTHER : ☐																																																																		

Picklist Print

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Work Order ID: 144359

144359

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 5/6/2016

Required Date: 5/20/2016

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

Purchased

No

230

Each

1,233.000

34

34

AN3C5A

Bolt

**

all 16/03/27

Location

Loc Qty

Loc Code

FG

5

122800

5

FP001

172

M133686

172

OVER002

1000

M134502

1000

ST350

56

x34

M133234

56

D3537-1

Manufactured

No

230

Each

36.0000

3

3

D3537-1

Wearpad

**

all 16/05/27

Location

Loc Qty

Loc Code

FG

18

79833

8

88562

10

FP001

9

141922

9

ST184

9

105680

4

107384

4

125911

1

B142912

x3

NAS1149C0832R

Purchased

No

230

Each

55.0000

1

1

NAS1149C0832R

Washer

**

all 16/05/27

Location

Loc Qty

Loc Code

FP001

55

m125807

55

x1

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Shop Packet Print

Page 9

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
Date : _____		Step #: _____		QTY Effective : _____		MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____			
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐ _____							

Picklist Print

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Work Order ID: 144359

144359

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 5/6/2016

Required Date: 5/20/2016

Start Qty: 1.00

Required Qty: 1.00

AN3C6A

Purchased

No

230

Each

180.0000

4

4

AN3C6A

Bolt

ll 16/05/27

Location

Loc Qty

Loc Code

CA

31

M134762

x4

m128704

31

FG

10

122416

10

FP001

28

m128769

10

m133363

5

m133990

13

ST338a

6

m133077

6

ST349

105

m132767

4

m133694

1

m134502

100

NAS1611-013

Purchased

No

230

Each

126.0000

8

8

NAS1611-013

O-Ring

ll 16/05/27

Location

Loc Qty

Loc Code

FP001

126

m130758

19

m133812

107

x8

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																		
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																		
Large Fab ☐	Composite ☐	Supplier ☐																			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																	
Description Work Order Deviation		Disposition		Completed By																	
				Lead hand / Supervisor Approval Verification																	
				QC / QA Coordinator Approval																	
<table style="width:100%; border: none;"> <tr> <td colspan="2" style="text-align: center; border: none;">Root Cause</td> <td colspan="3" style="text-align: center; border: none;">FAULT CATEGORY</td> </tr> <tr> <td style="border: none; vertical-align: top;"> Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ </td> <td style="border: none; vertical-align: top;"> No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐ </td> <td style="border: none; vertical-align: top;"> Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ </td> <td style="border: none; vertical-align: top;"> Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ </td> <td style="border: none; vertical-align: top;"> Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ </td> <td style="border: none; vertical-align: top;"> Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐ </td> </tr> <tr> <td colspan="4" style="border: none; vertical-align: top;"> OTHER : ☐ </td> </tr> </table>					Root Cause		FAULT CATEGORY			Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : ☐					
Root Cause		FAULT CATEGORY																			
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OTHER : ☐																					

Picklist Print

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Work Order ID: 144359

144359

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 5/6/2016

Required Date: 5/20/2016

Start Qty: 1.00

Required Qty: 1.00

D3535-25

Manufactured No

230

Each

18.0000

1

1

D3535-25

**

Wearplate Center

LocationLoc QtyLoc Code

FG

4

128224

1

139987

1

95077

2

FP002

14

139732

14

D3794-1

Manufactured No

230

Each

19.0000

1

1

D3794-1

**

Gasket Fwd

LocationLoc QtyLoc Code

FP001

19

139039

3

142770

16

MS21043-6

Purchased No

230

Each

79.0000

4

4

MS21043-6

**

NUT

LocationLoc QtyLoc Code

FG

20

103693

20

FP001

29

m134365

29

ST302

30

m134557

30

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:12.5%;">Skid-tube ☐</td> <td style="width:12.5%;">Cross tube ☐</td> <td style="width:12.5%;">Water Jet ☐</td> <td style="width:12.5%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																							
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Root Cause		FAULT CATEGORY																																																													
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	No Re-verification ☐	Operator ☐	Offset/Setup ☐	Supplier ☐	Training ☐	Use for Testing ☐	Poor Information ☐	Rushing ☐	Product Improvement ☐	Process Improvement ☐	Manufacturing Process ☐	Past Due ☐	Pressure/Forced ☐	Bending ☐	Centre Not Concentric ☐	Cracks ☐	Crimp/Kink/Ripple/Wave ☐	Cuffs ☐	Crushing ☐	Heat Treat ☐	Wave/Twist in Tube ☐	Marks/Chatter ☐	Temperature/Cure ☐	Set-up ☐	BOM/Route ☐	Broken/Damage/Defect ☐	Inspection Incomplete/Unqualified ☐	Contamination ☐	Countersink ☐	Cut Too Short ☐	Instructions Incomplete/Unclear ☐	Drill Holes ☐	Power Loss/Surge ☐	Folio/Program ☐	Grain ☐	Weld ☐	Wrong Stock Pulled ☐	Out of Sequence ☐	Off-set ☐	Mislabeled ☐	Fit/Function ☐	Misaligned/off center ☐	Positioned Wrong ☐	Outside Dimensions ☐	Over/Under tolerance ☐	Part Incorrect ☐	Part Lost/Missing ☐	Part Moved ☐	Drawing ☐	Finish ☐	Misread ☐	Turning Sequence ☐
OTHER : ☐																																																															

Picklist Print

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Work Order ID: 144359

144359

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 5/6/2016

Required Date: 5/20/2016

Start Qty: 1.00

Required Qty: 1.00

D3493-1

Manufactured No

250

Each

100.0000

2

2

D3493-1

Washer

DAS

6

9-89

DAS

28

9-89

Location

Loc Qty

Loc Code

FG

10

97201

10

ST039

90

140678

90

MS21083C8

Purchased

No

250

Each

47.0000

2

2

MS21083C8

Nut

DAS

6

9-89

DAS

28

9-89

Location

Loc Qty

Loc Code

FP001

9

m133990

9

ST297

38

m134055

18

m134509

20

AN8C21A

Purchased

No

250

Each

64.0000

2

2

AN8C21A

Bolt

DAS

6

9-89

DAS

28

9-89

Location

Loc Qty

Loc Code

FG

4

123966

2

m132169

2

over005

30

m134130

30

ST332

30

m132169

2

m132522

4

m133917

24

DAS

27

9-89

MAY 3 7 2016

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Shop Packet Print

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition			
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
		OTHER : ☐					

Picklist Print

Page 13

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Work Order ID: 144359

144359

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.

Start Date: 5/6/2016

Required Date: 5/20/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1515H3L

Purchased

No

230

Each

211.0000

4

4

***NAS1515H3I ***

Washer

**

16/03/27

Location

Loc Qty

Loc Code

FG

40

102472

40

FP001

67

m127831

67

ST260a

100

m134508

100

ST266

4

m130726

4

D2741

Manufactured

No

250

Each

39.0000

1

1

D2741

Replacement Blade

**

68-6
28
DAS

Location

Loc Qty

Loc Code

FG

10

131616

10

ST538

29

132981

15

141001

14

D3532-1

Manufactured

No

250

Each

9.0000

2

2

D3532-1

Spacer

**

68-6
28
DAS
6
9-89

Location

Loc Qty

Loc Code

ST041

9

140224

9

2

MAY 31 2016

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Page 13

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		

Root Cause				FAULT CATEGORY							
Environment	☐		No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design	☐		Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data	☐		Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling	☐		Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre	☐		Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material	☐		Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport	☐		Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge	☐		Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA	☐		Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation	☐		Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date	☐		Manufacturing Process	☐	OTHER : _____						
Misidentified	☐		Past Due	☐							

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN8C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

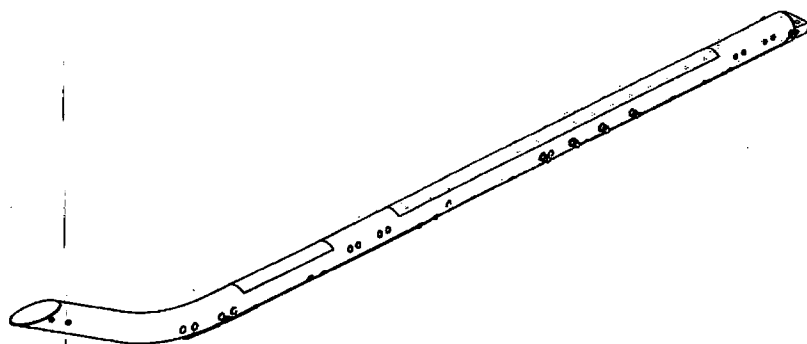
GENERAL NOTES:

- MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH: ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
STANDARD: PRIME (REF. 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2
OPTIONAL: POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- WELD PER DART QSI 004
- INSTALL: ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
FINISH WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

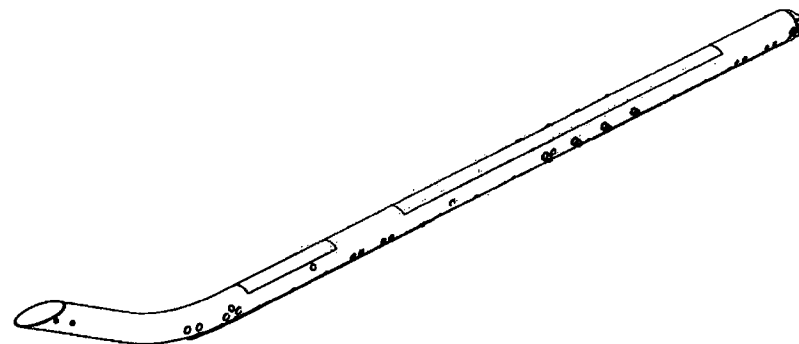
20160413

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2013-08-13

G	CORRECTED TOLERANCE ON $\phi 0.500$ THRU HOLE: IS +0.010/-0.000, WAS +0.100/-0.000 (ZN B3-4, B2-5); ADD VIEW TO CONTROL FWD BEND ORIENTATION (ZN D-1,4J-5,6J-7); UPDATED FINISH OPTIONS; INSIDE OF TUBE NO LONGER SPRAYED WITH LPS-3; REASON: PART13-276 AND NCR13-2757	MB	13.07.11
F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/-3 REPLACES D3535-13/-35 (ZN C8-1); D3794-1/-3 REPLACES D3536-13/-35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS; CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741, QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	MM	DART AEROSPACE USA, INC.	
DRAWN	3	KENT, WA	
CHECKED	9	DRAWING NO.	REV. G
MFG. APPR.	9	D2750	SHEET 1 OF 11
APPROVED	9	TITLE	SCALE
DE APPR.	9	350 SKIDTUBE ASSEMBLY	NTS
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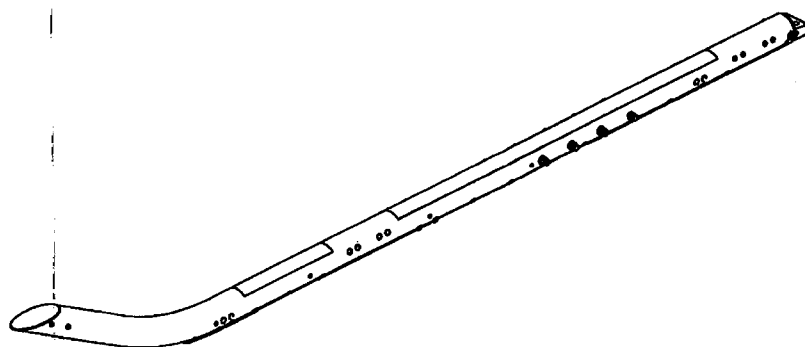
D2750-041 350 SKIDTUBE ASSEMBLY, LH



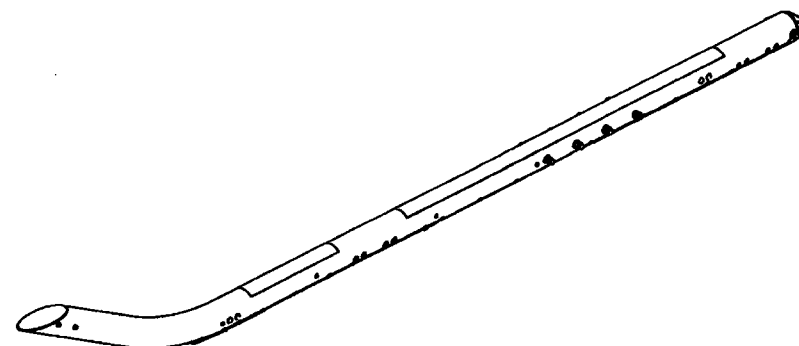
D2750-042 350 SKIDTUBE ASSEMBLY, RH

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MFG. APPR.	<i>[Signature]</i>	D2750	SHEET 2 OF 11
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D2750-043 350 SKIDTUBE ASSEMBLY, LH

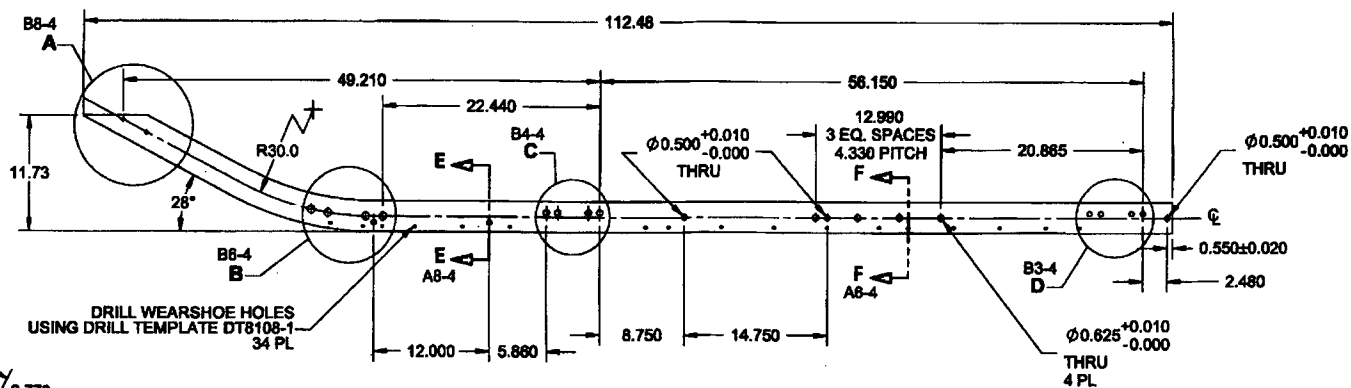


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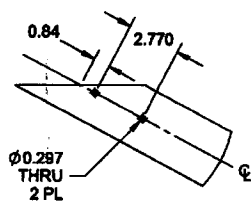
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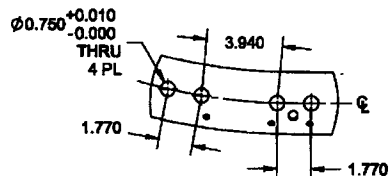
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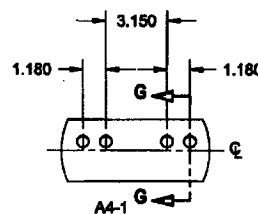
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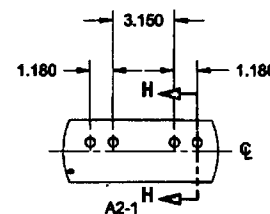
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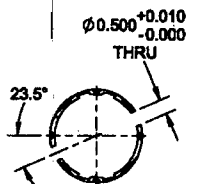
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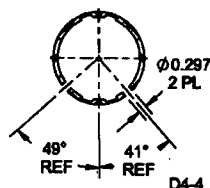
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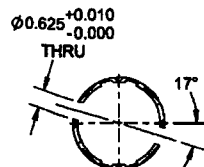
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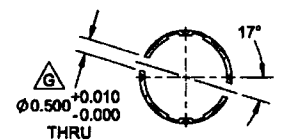
SECTION E-E
SCALE 3X, 2 PL



SECTION F-F
SCALE 3X, 17 PL



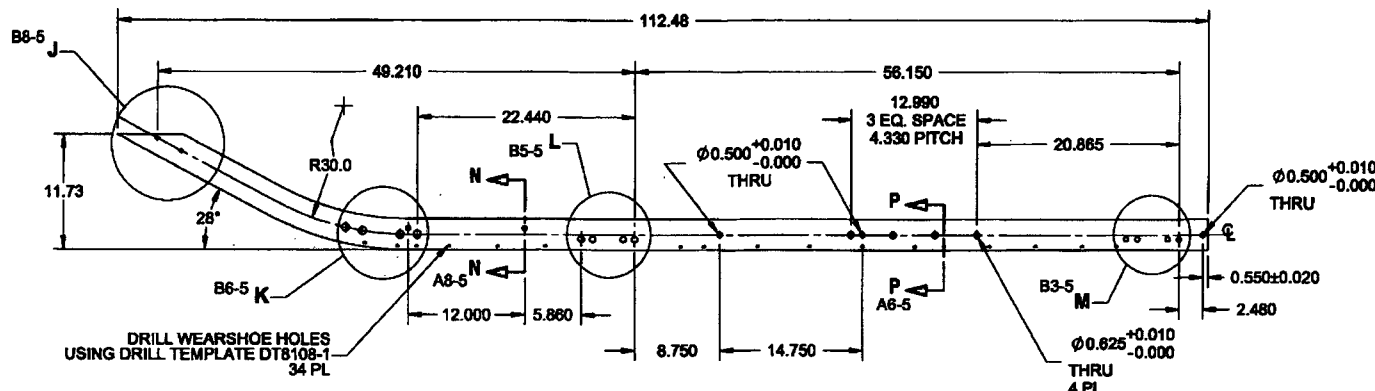
SECTION G-G
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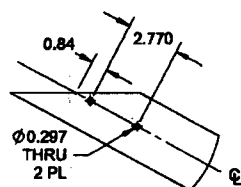
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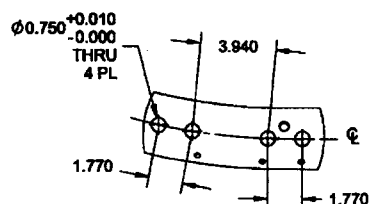
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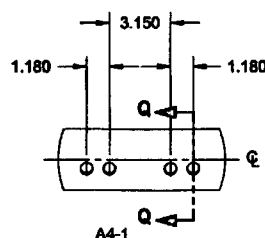
D2750-2 RH SKIDTUBE



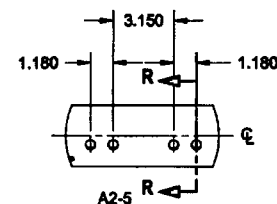
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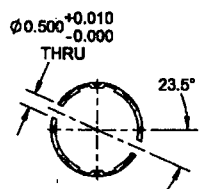
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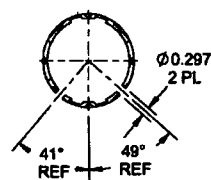
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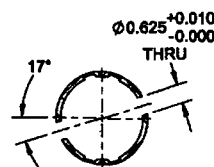
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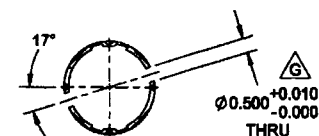
SECTION N-N
SCALE 3X, 2 PL



SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL

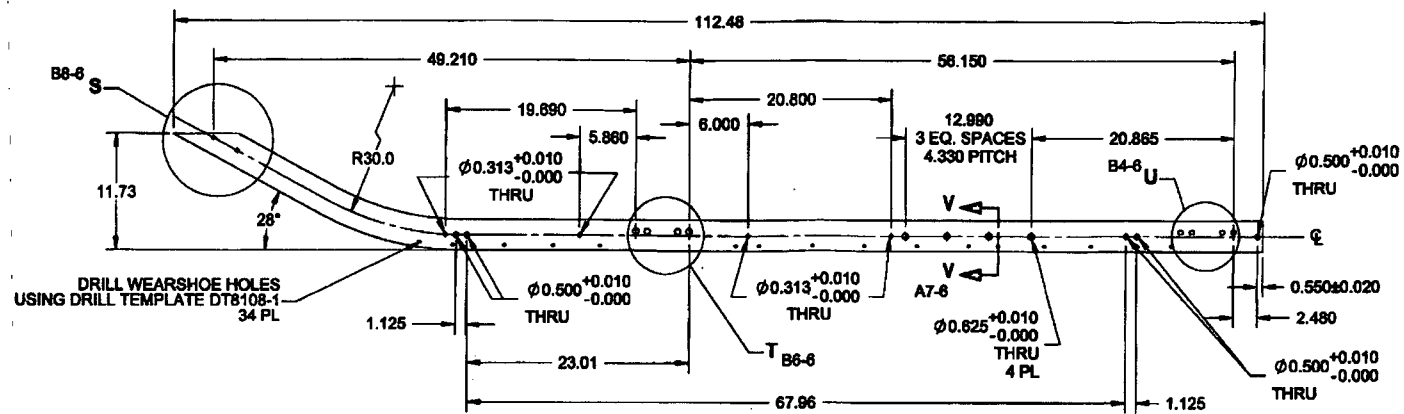


SECTION R-R
SCALE 3X, 4 PL

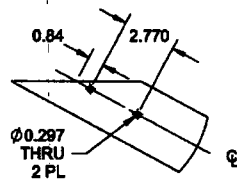
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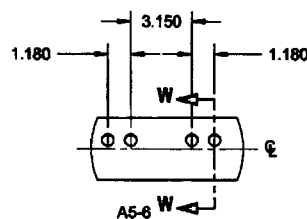
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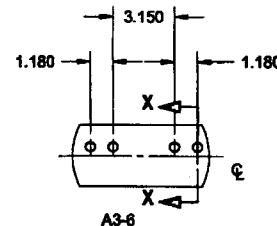
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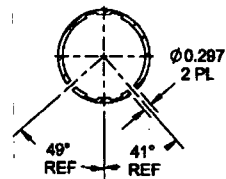
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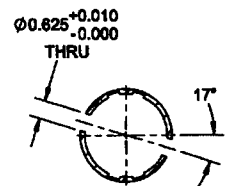
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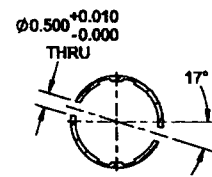
DETAIL U
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SECTION V-V
SCALE 3X, 17 PL



SECTION W-W
SCALE 3X, 4 PL

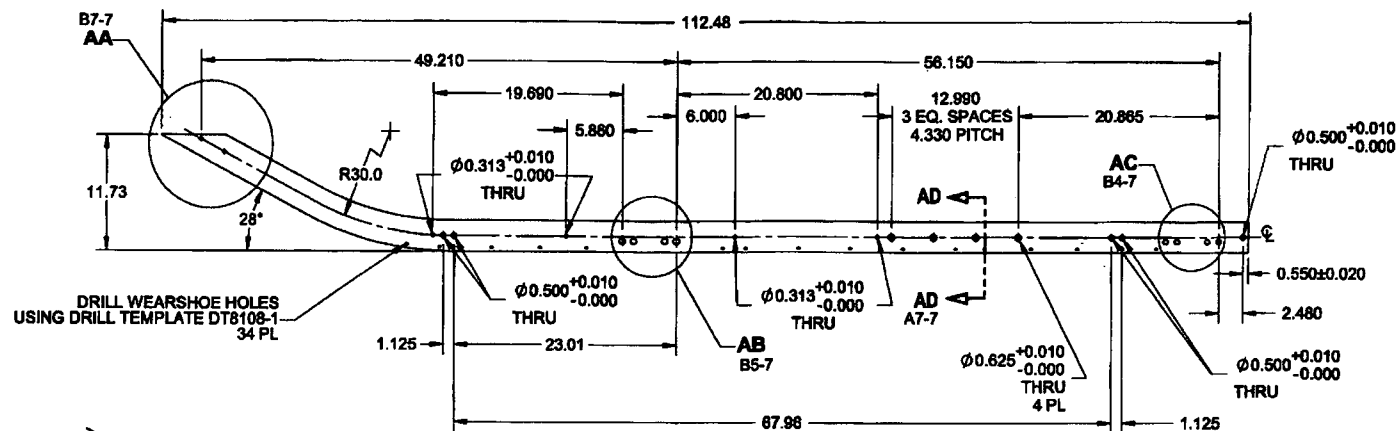


SECTION X-X
SCALE 3X, 4 PL

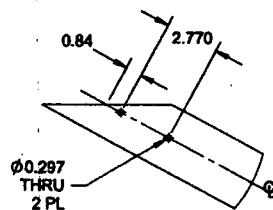
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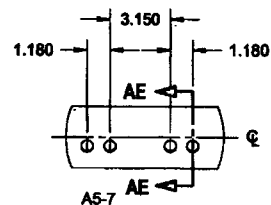
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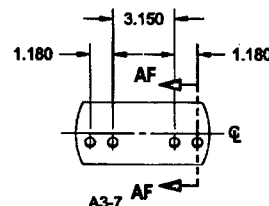
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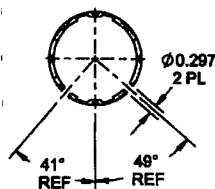
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D7-7
SCALE 2X



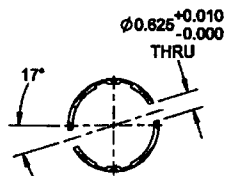
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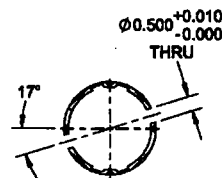
DETAIL AC
D3-7
SCALE 2X



SECTION AD-AD
D3-7
SCALE 3X, 17 PL



SECTION AE-AE
B6-7
SCALE 3X, 4 PL

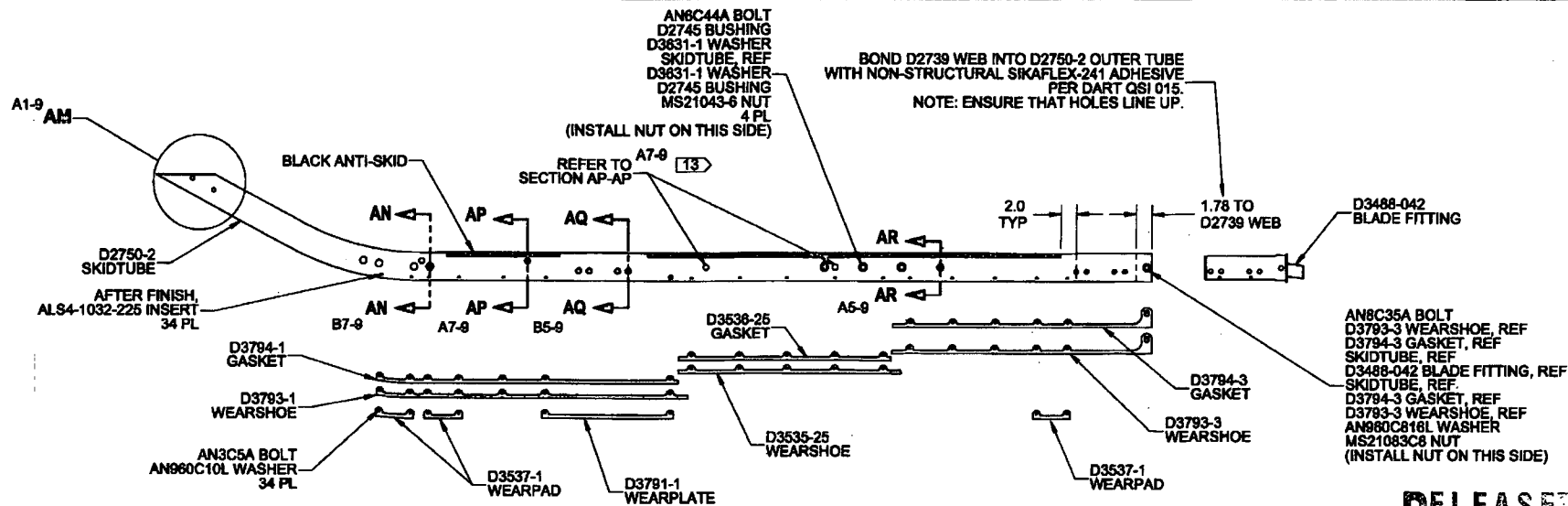


SECTION AF-AF
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SCALE 3X, 4 PL

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MP

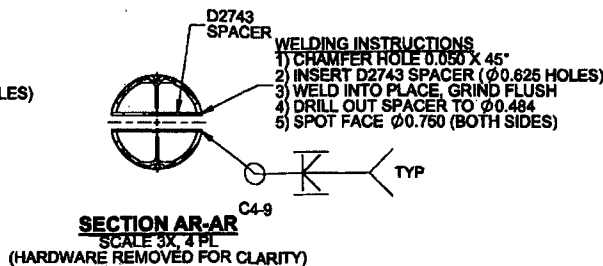
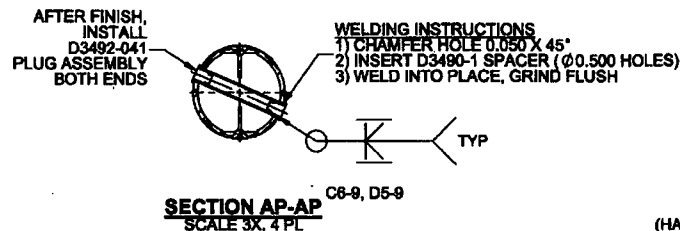
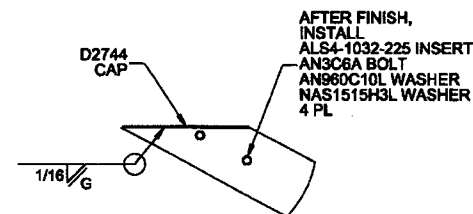
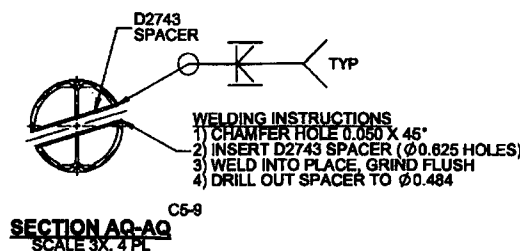
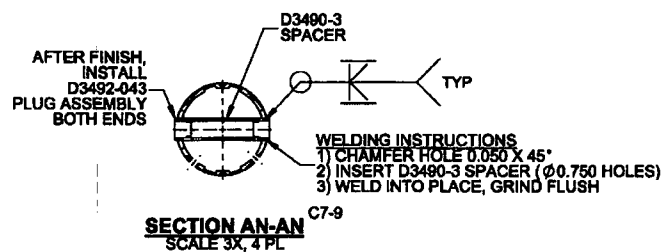
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CHECKED		DRAWING NO.	REV. G
MFG. APPR.		D2750	SHEET 7 OF 11
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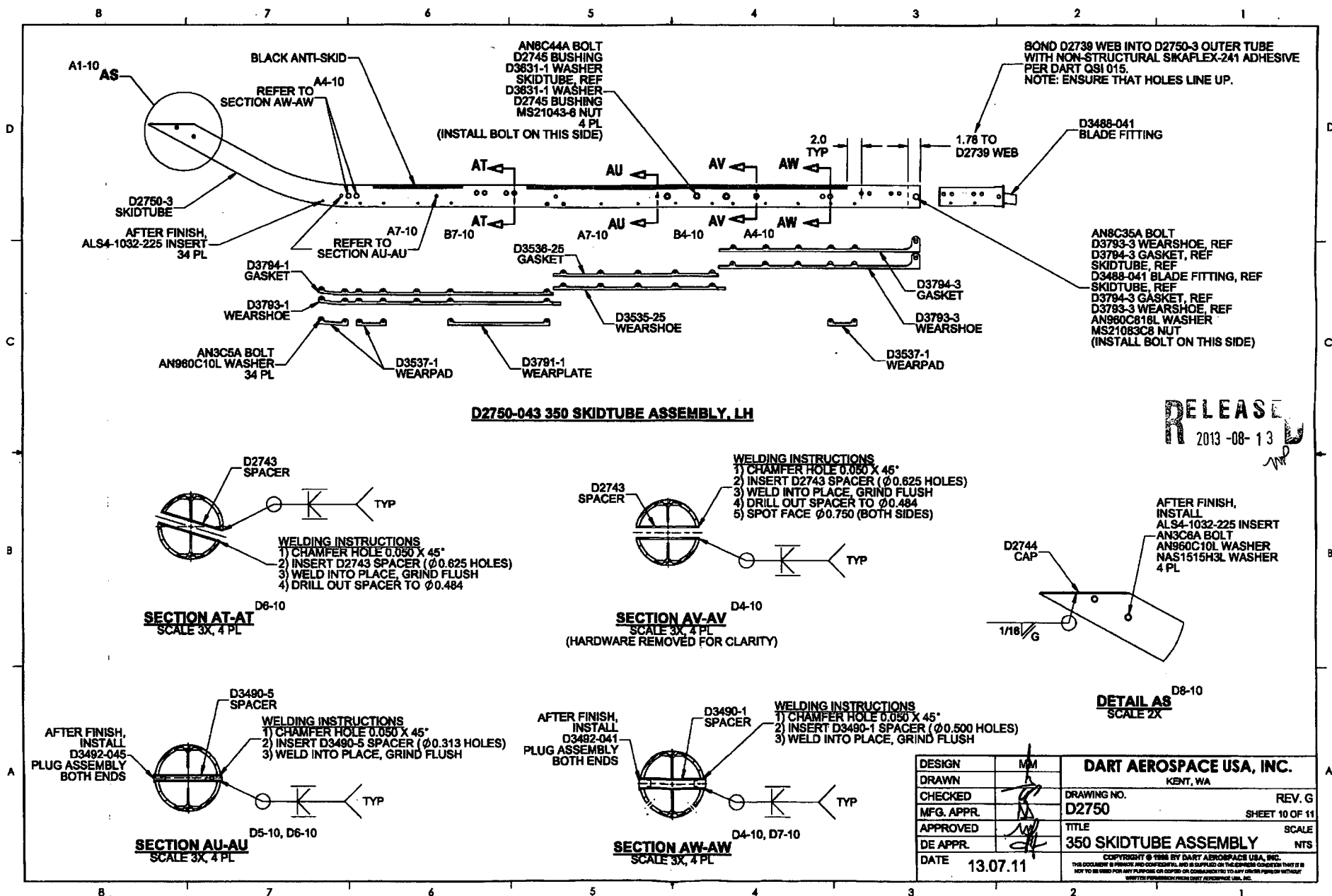


D2750-042 350 SKIDTUBE ASSEMBLY. RH

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SECTION
SCALE 3/4" = 1'

8

7

Work Order ID 144359

April 13, 2016 1:41:58 PM

144359

Page 1

Item ID: D350-636-011 Accept *N900040100* Setup Start *NS1*
Revision ID: Stop *NS2*
Item Name: Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.
Start Date: 5/6/2016 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 5/20/2016 Req'd Qty: 1.00 *1* Customer:
Reference:

Approvals: Process Plan: SEA Date: 20160413 Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2750-041	G								
100	Document Control	0.00	8						
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	record fwd angle: <u>89.7°</u>								
	Photocopy blue file and type labels per PPP D350-636-011 CHG 007								

MAY 31 2016

MAY 31 2016

16-5-9
H